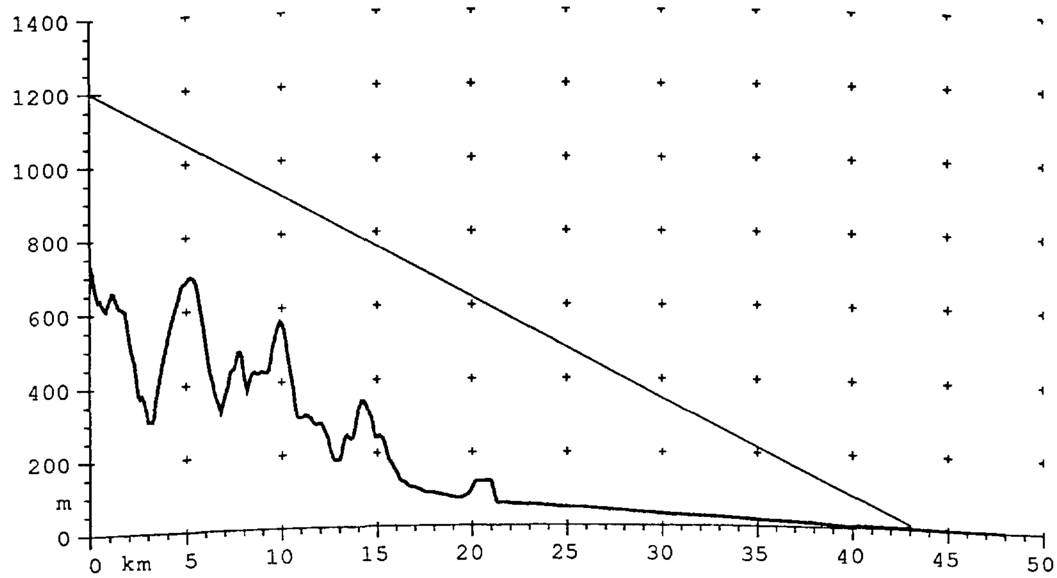
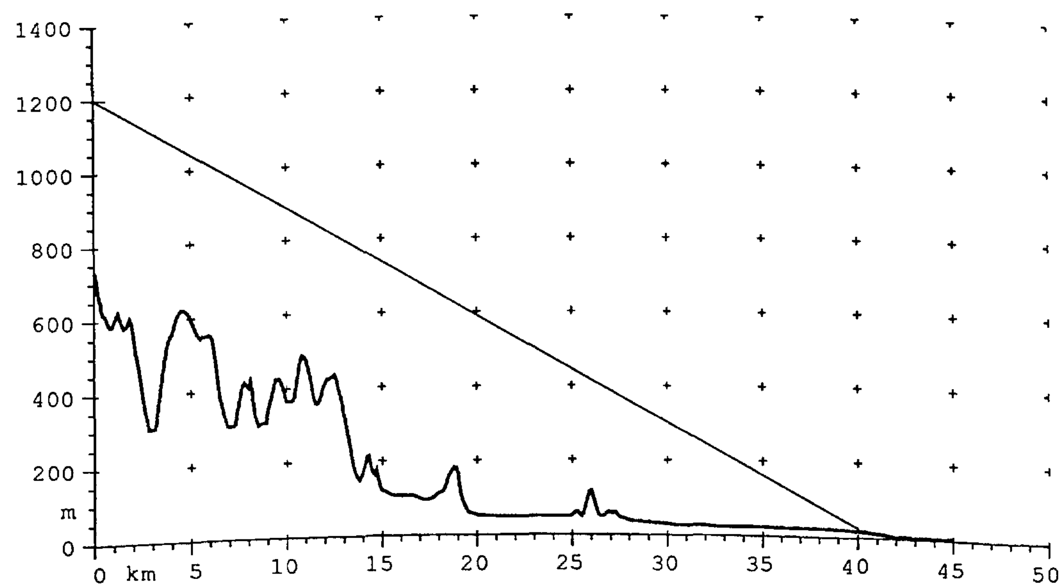
MM DOCKET 93-142 COMMENTS
PROPOSED DELETION OF CHANNEL 11 ALLOCATION
WILLITS, CALIFORNIA

340°T AND 345°T RADIALS FROM KSBW SITE TO SAN JOSE, CALIFORNIA



340.0T from 37- 3-30 121-46-33, 4/3 earth, USGS 3-second data

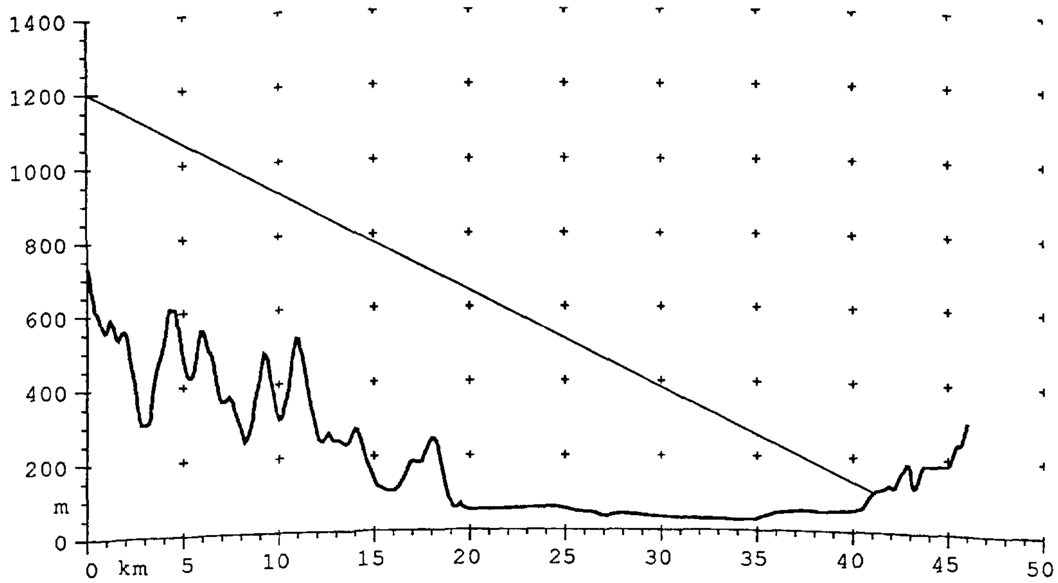


345.0T from 37- 3-30 121-46-33, 4/3 earth, USGS 3-second data

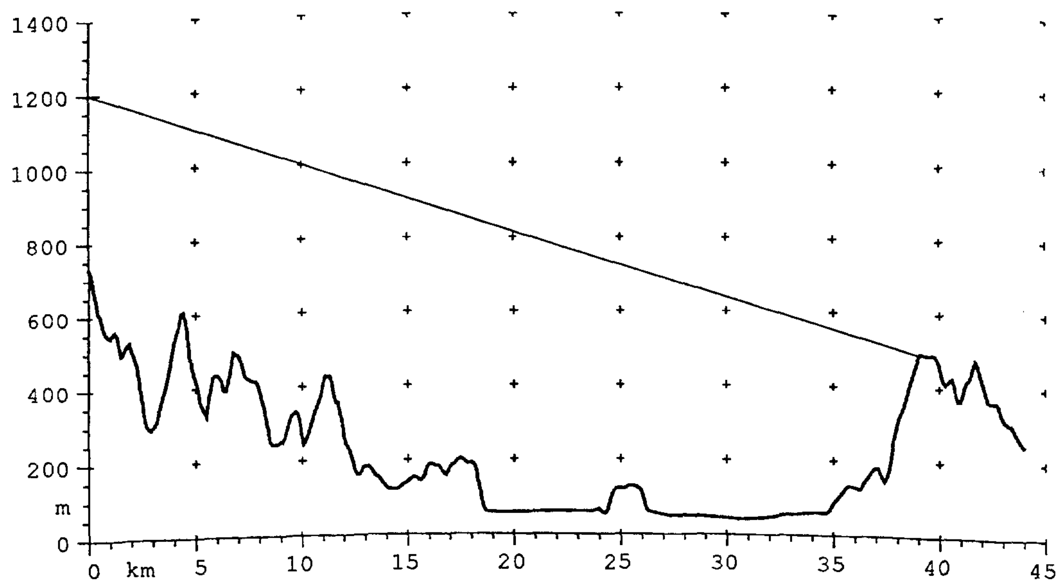
Terrain profiles from KSBW site, with same elevation as employed by TV Station KSBW, to most-distant extent of City of San Jose population centroids based on the 1990 U.S. Census. Profile extends an additional 5 kilometers beyond this distance.

MM DOCKET 93-142 COMMENTS
PROPOSED DELETION OF CHANNEL 11 ALLOCATION
WILLITS, CALIFORNIA

350°T AND 355°T RADIALS FROM KSBW SITE TO SAN JOSE, CALIFORNIA



350.0T from 37- 3-30 121-46-33, 4/3 earth, USGS 3-second data

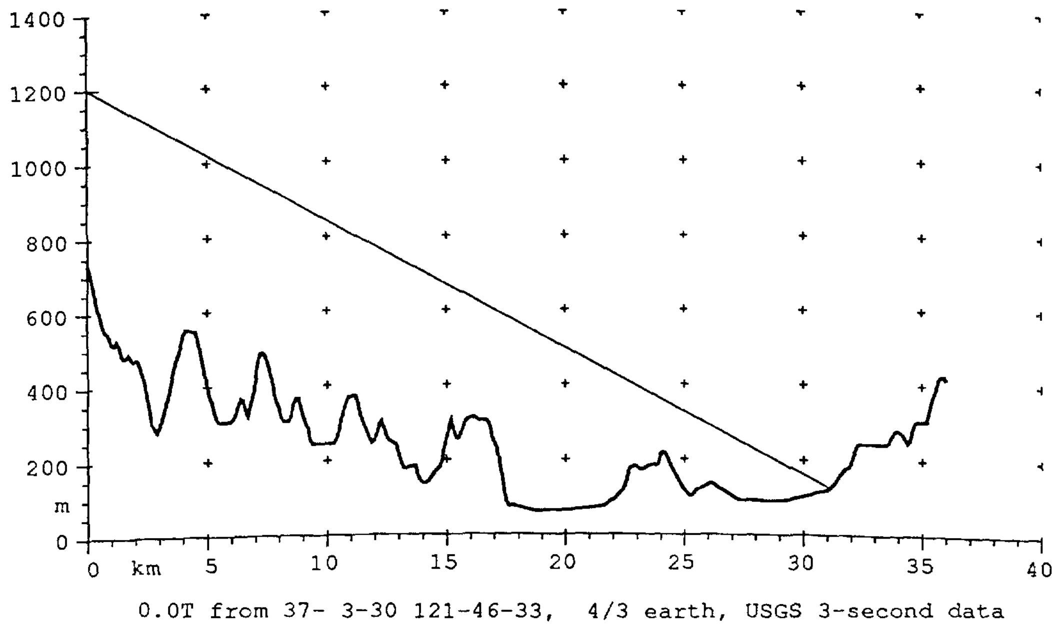


355.0T from 37- 3-30 121-46-33, 4/3 earth, USGS 3-second data

Terrain profiles from KSBW site, with same elevation as employed by TV Station KSBW, to most-distant extent of City of San Jose population centroids based on the 1990 U.S. Census. Profile extends an additional 5 kilometers beyond this distance.

MM DOCKET 93-142 COMMENTS
PROPOSED DELETION OF CHANNEL 11 ALLOCATION
WILLITS, CALIFORNIA

0°T RADIAL FROM KSBW SITE TO SAN JOSE, CALIFORNIA



Terrain profiles from KSBW site, with same elevation as employed by TV Station KSBW.

MM DOCKET 93-142 COMMENTS
PROPOSED DELETION OF CHANNEL 11 ALLOCATION
WILLITS, CALIFORNIA

TERRAIN-SENSITIVE COVERAGE OF SAN JOSE
FOR KNTV AT KSBW SITE

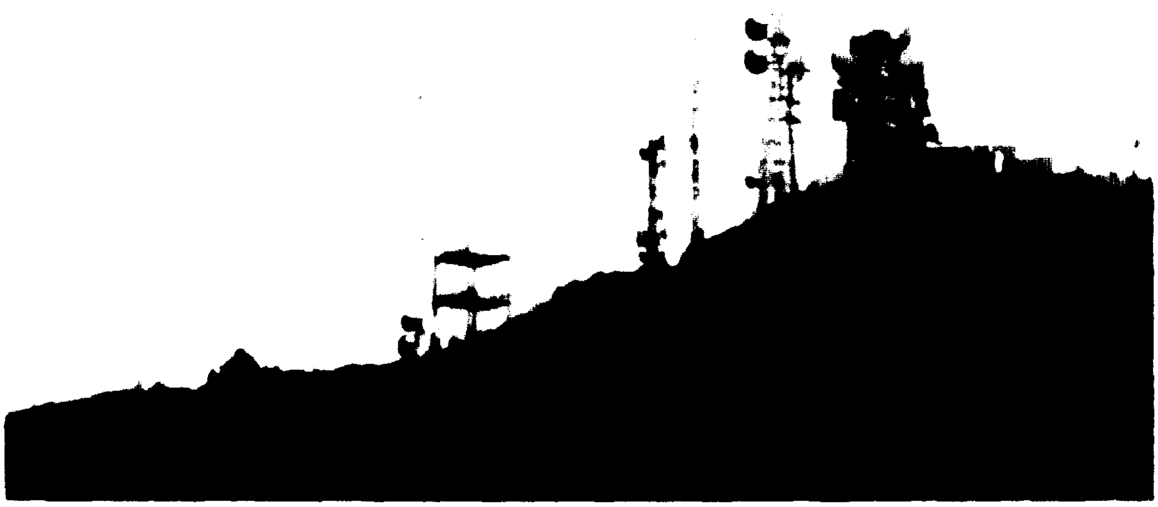
HAMMETT & EDISON, INC.
CONSULTING ENGINEERS
SAN FRANCISCO

930708
FIGURE 6

MM DOCKET 93-142 COMMENTS
PROPOSED DELETION OF CHANNEL 11 ALLOCATION
WILLITS, CALIFORNIA

LOMA PRIETA SITE PHOTOGRAPH

KNTV, Ch. 11, San Jose

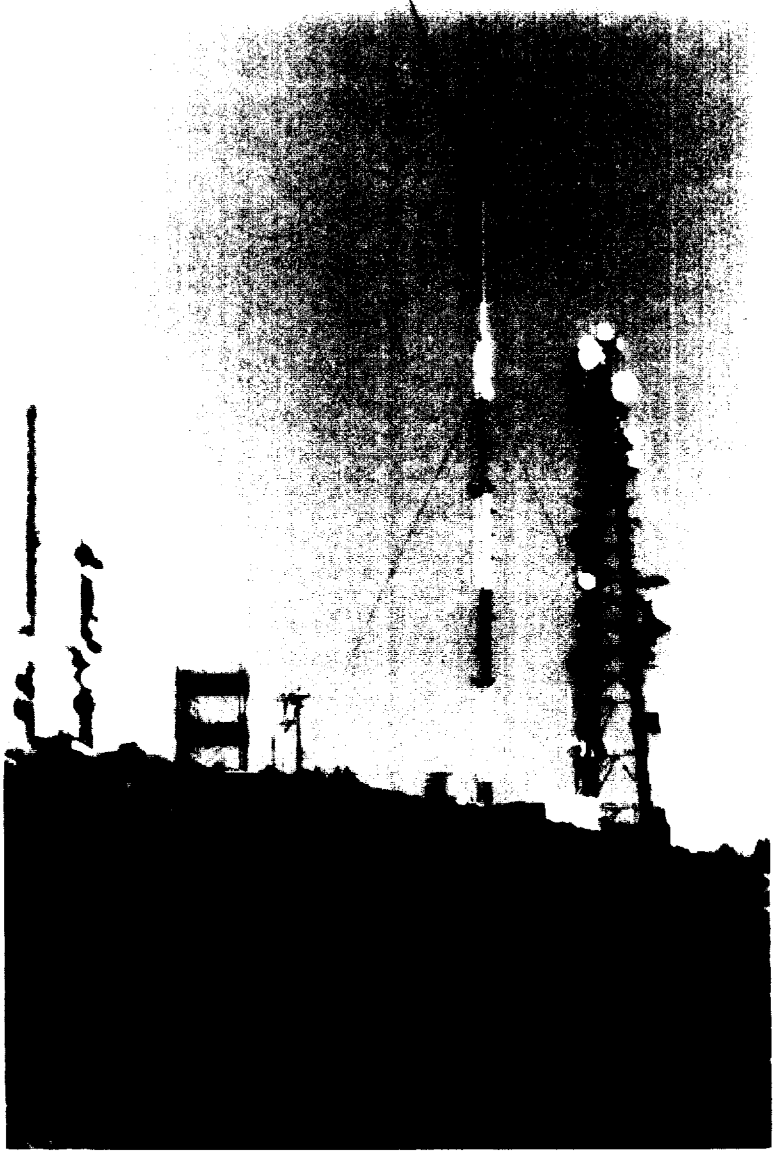


Loma Prieta communications site.

MM DOCKET 93-142 COMMENTS
PROPOSED DELETION OF CHANNEL 11 ALLOCATION
WILLITS, CALIFORNIA

LOMA PRIETA SITE PHOTOGRAPH

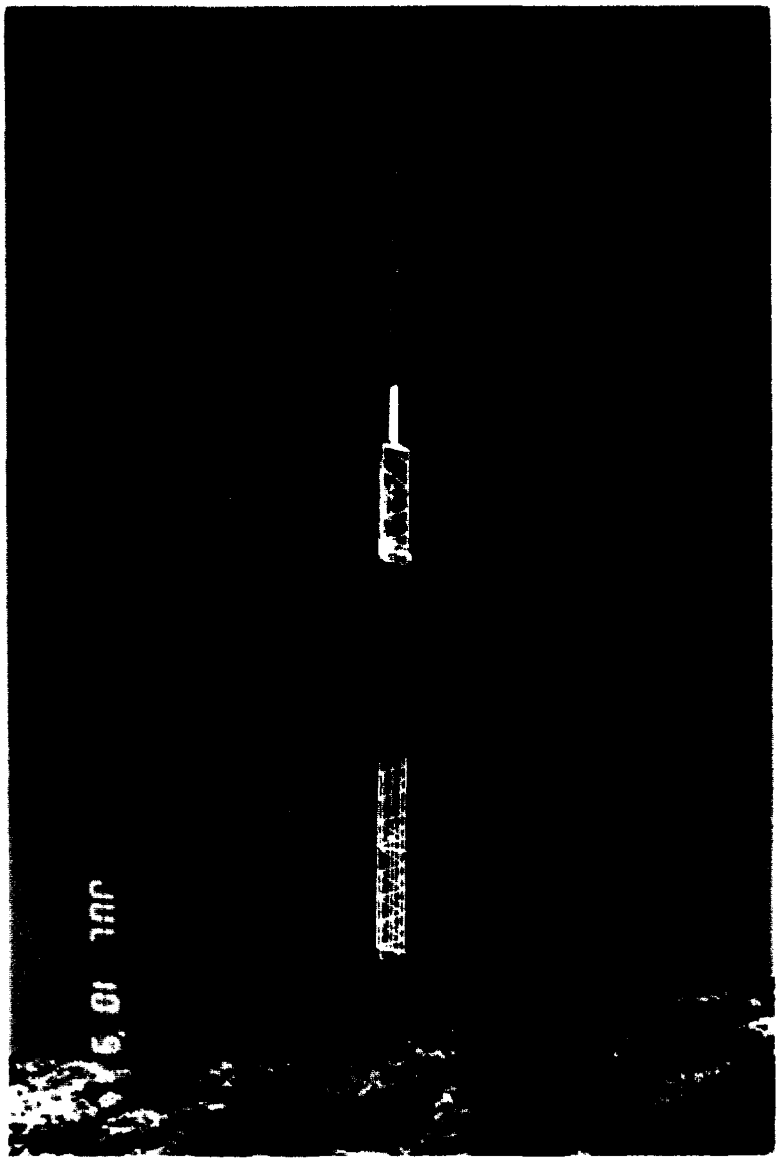
KNTV, Ch. 11, San Jose



KNTV tower at Loma Prieta.
The KNTV tower also supports the antenna of FM Station KBAY

MM DOCKET 93-142 COMMENTS
PROPOSED DELETION OF CHANNEL 11 ALLOCATION
WILLITS, CALIFORNIA

LOMA PRIETA SITE PHOTOGRAPH



KNTV tower at Loma Prieta

DAMES & MOORE

500 MARKET PLACE TOWER, 2025 FIRST AVENUE, SEATTLE, WASHINGTON 98121

6. I am a registered Civil Engineer in the State of California (Registration No. C29085).

7. My curriculum vitae is presented as Exhibit 1.

8. I have been retained by Hammett & Edison, Inc. to review (a) the seismic hazard of the transmitter tower site of TV Station KNTV, and (b) the Declaration of Richard E. Hammond contained in the Petition for Rulemaking filed with the FCC on February 18, 1993, by Akin, Gump, Strauss, Hauer & Field, L.L.P. on behalf of Granite Broadcasting Corporation and KNTV, Inc.

9. I reviewed available publications and maps dealing with the seismic hazard of the site region and discussed some of this information with Jim Hengesh, geologist in the Dames & Moore San Francisco office, and Robert McLaughlin, geologist with the U.S. Geological Survey in Menlo Park, California.

10. As part of my review, I visited the site on July 10, 1993, and observed the location of the tower structure, the surficial geology, and the topography of the site.

11. Based on my review of the literature, discussions with the two aforementioned geologists and observations during the site visit, I conclude that during the assumed remaining life of the tower (~ 30 years), the site on which it is located will probably not experience shaking as strong (~ 0.5g) as it experienced during the 1989 Loma Prieta earthquake. Based on the site's stable performance during the 1989 Loma Prieta earthquake, it is unlikely that the site will experience significant ground cracking, slumping, fissures, or landslides resulting from ground motions less severe than the site experienced during the 1989 event. Furthermore, based on the distribution of Quaternary faults in the San Francisco Bay region, the proximity of mountain peaks to these faults, and the relatively high probability of a major earthquake of magnitude M=7 on the San Francisco Peninsula segment of the San Andreas fault during the next 30 years, I conclude that the ground-motion hazard on those peaks in the San Francisco Bay region that might serve as adequate television transmission locations, is at least comparable or possibly greater than the ground-motion hazard at the tower's present

location at Loma Prieta peak. The reasons for my conclusions in this paragraph are provided in the following paragraphs.

12. The tower is located adjacent to Loma Prieta peak in the Santa Cruz mountains (see Attachment A, Ref. 1). The peak is within the Sargent fault zone (see Attachments B and C, Ref. 2), which has shown evidence of movements during the Holocene, *i.e.* approximately last 10,000 years (Ref. 3). The primary surficial trace of this fault trends in the ESE direction and passes within approximately one-half kilometer of the tower facility. The San Andreas fault trends in the SE direction and passes within approximately 3 kilometers of the site (see Attachment D, Ref. 3).

13. The epicenter of the 1989 Loma Prieta earthquake was located approximately 8 kilometers SW of Loma Prieta peak (Attachment F, Ref. 4). The inferred fault rupture for this earthquake, shown in Attachment E, is coincident with the Santa Cruz Mountain segment of the San Andreas fault, which prior to the 1989 event was estimated to have a 30 percent probability of generating a M~6.5 earthquake in the time period 1988 to 2018. This probability estimate was made in 1988 by The Working Group in California Earthquake Probabilities, which consisted of 12 highly qualified experts in the earthquake field (Ref. 5). The group reconvened after the 1989 earthquake and re-evaluated the probabilities of major earthquakes on segments of the San Andreas fault in the San Francisco Bay area and estimated the probabilities of major earthquakes on the Hayward and Rodgers Creek faults in the East Bay area. They concluded that the probability of a M=7 event on the Santa Cruz Mountains segment during the period 1990 to 2020 was essentially zero, and that the probability in the same period of a similar size event on the San Francisco Peninsula segment was 0.23 (Attachment F, Ref. 6). Thus, according to The Working Group, the 1989 Loma Prieta earthquake essentially eliminated the risk of another major earthquake in the next 30 years on the Santa Cruz Mountain segment of the San Andreas fault, whereas the group estimated the risk to have slightly increased on the adjacent San Francisco Peninsula segment since their 1988 report (Ref. 5) was published.

14. The ground shaking that the Loma Prieta peak site experienced during the 1989 Loma Prieta earthquake was estimated to have been greater than 0.4g (Attachment G, Ref. 7). The largest peak ground acceleration (0.64g) was recorded at Corralitos,

located approximately 1 kilometer from the surface trace of the San Andreas fault. The Loma Prieta peak was located approximately 3 kilometers from the fault. Based on a plot of the peak ground accelerations recorded on rock sites during the 1989 Loma Prieta earthquake versus distance from the fault rupture of this event, the peak ground acceleration at the Loma Prieta peak was probably on the order of 0.5g or greater (Attachment H, Ref. 8).

15. The probability that the site will experience ground shaking during the next 30 years that is as strong or stronger than the level it experienced during the 1989 Loma Prieta earthquake is small in my opinion because the earthquake threat from the Santa Cruz segment of the San Andreas fault is believed to be negligible during this period. Also, because the 1989 Loma Prieta event did not generate any ground failures during the estimated intense shaking at the site, the probability that earthquake-induced ground failures will occur at the site during the next 30 years is also small in my opinion.

16. Relocating the tower from Loma Prieta peak to another peak to the northwest will most likely increase the ground shaking hazard that the tower might experience, not decrease it as suggested in Paragraph 5 of the Declaration of Richard E. Hammond. All viable peaks northwest of Loma Prieta peak in the San Francisco Peninsula region appear to be within 5 kilometers of the San Andreas fault. Peaks in this region are much closer to the San Francisco Peninsula segment of the San Andreas fault than is the Loma Prieta peak. As noted in Paragraph 13 of this testimony, the probability of a M=7 earthquake on this segment in the period 1990 to 2020 is 0.23 (Ref. 6), whereas, the probability of a similar event at the Loma Prieta site on the Santa Cruz segment is believed to be negligible.

17. The San Andreas fault is not the only fault in the San Francisco Bay area capable

probabilities of a M=7 event on the Southern East Bay segment or Northern East Bay segment of this fault during the period 1990 to 2020 are 0.23 and 0.28, respectively.

19. Although the seismic hazard at Loma Prieta peak may not be as great as on other peaks in the Bay area, there is still a significant seismic hazard at this site which should be considered in seismic vulnerability studies of the tower. I recommend that 0.4g be considered as an Upper Level Earthquake (ULE), i.e. shaking that has a small probability of occurrence during an assumed remaining tower life of 30 years, and that 0.2g be considered as a Lower Level Earthquake (LLE), i.e. shaking that has a reasonable probability of occurrence in this period. Under the ULE shaking, the tower should not collapse and under the LLE shaking the tower should not be damaged. Similar performance criteria are typically adopted in the analysis and design of many structures and are implicit in several seismic codes or provisions. The Soil Type 1 Normalized Response Spectra Shape, shown in Figure No. 23-3 of the 1991 Uniform Building Code and scaled to the LLE or ULE acceleration levels, is recommended for any linear dynamic analysis of the tower structure that may be performed.

20. I declare that the foregoing is true to the best of my knowledge and belief.

July 14, 1993

C. B. Crouse

C.B. Crouse, P.E.

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Curriculum Vitae

C. B. CROUSE

TITLE

Associate

EXPERTISE

Probabilistic and Deterministic Seismic Hazard Analyses
Development of Seismic Design Criteria
Ground-Motion Analyses
Site-Response and Soil-Liquefaction Studies
Seismic Soil-Structure Interaction Investigations

PROFESSIONAL EXPERIENCE

Dr. Crouse has 19 years of professional experience in earthquake engineering and engineering seismology. He has been responsible for managing and performing technical projects involving: determination of seismic design criteria and seismic design of structures, seismic safety surveys for existing structures, dynamic analysis of soil-structure interaction, seismic response of foundation soils, vibration testing of structures in the field, seismic hazard analysis, probability studies of environmental loads, studies of soil liquefaction, and centrifuge modeling of soil-structure systems. Projects included DOE facilities, nuclear and conventional power plants, off-shore structures, LNG and water-storage tanks, multi-story buildings, dams and reservoirs, hospitals, bridges, electrical transmission facilities, pipelines, and the superconducting super collider.

Dames & Moore, Inc. (1988 - present)
Performs probabilistic and deterministic seismic hazard analyses, ground-motion, site-response and soil-liquefaction studies, and seismic soil-structure interaction investigations.

Project Manager/Principal Investigator

- Evaluation of the site response for the Nuclear Regulatory Commission, National Service Foundation, and California Division of Mines and Geology. Evaluation includes calculation of site-amplification factors and site-dependent spectra from earthquake motions recorded on different local geologies.
- Seismic hazard evaluations for John Hart, Jordan River, Buntzen, Cleveland, and Seymour Falls dams in British Columbia, and Tolt and Cedar Falls dams in western Washington, and S. Haiwee dam in California. Evaluations included determination of Maximum Credible Earthquake and associated ground-motion parameters.
- Seismological and ground-motion studies for two hospital sites in southern California. Studies included evaluations of the regional seismic recurrence rates based on historical seismicity and geologic data from active faults and applicability of published ground-motion attenuation equations.

- Seismic design study for BE&C Engineers. Study included seismic hazard analysis, development of seismic design criteria, and application of criteria to design of Boeing's essential and critical buildings.
- Seismic hazard analyses of existing offshore platform sites in Huntington Beach, California, Santa Barbara Channel, and New Zealand. Analyses included evaluation of geologic and tectonic data, historical seismicity, and recorded ground motions. Ground motions for use in structural stability evaluations were estimated using probabilistic and deterministic methods.
- Seismic hazard analysis for Trans Mountain Oil Pipeline Company. Studies included probabilistic and deterministic estimates of ground motion and development of seismic design parameters for proposed oil pipeline facility in northwestern Washington.
- Seismic hazard evaluations for the San Francisco, San Jose, Los Angeles, Fullerton, and San Diego campus sites of the California State University system. Evaluations included the determination of earthquake ground motions for use in the seismic evaluation of campus parking structures.

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PH.D. THESIS

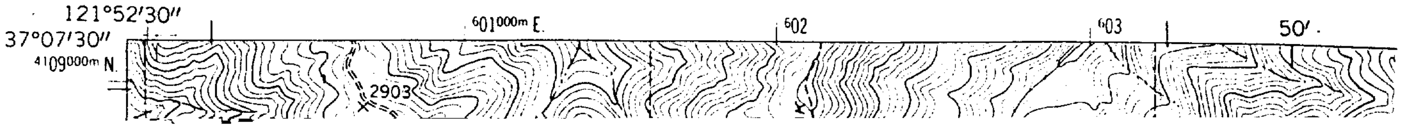
Engineering Studies of the San Fernando Earthquake: California Institute of

1658 III NW
(LOS GATOS)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

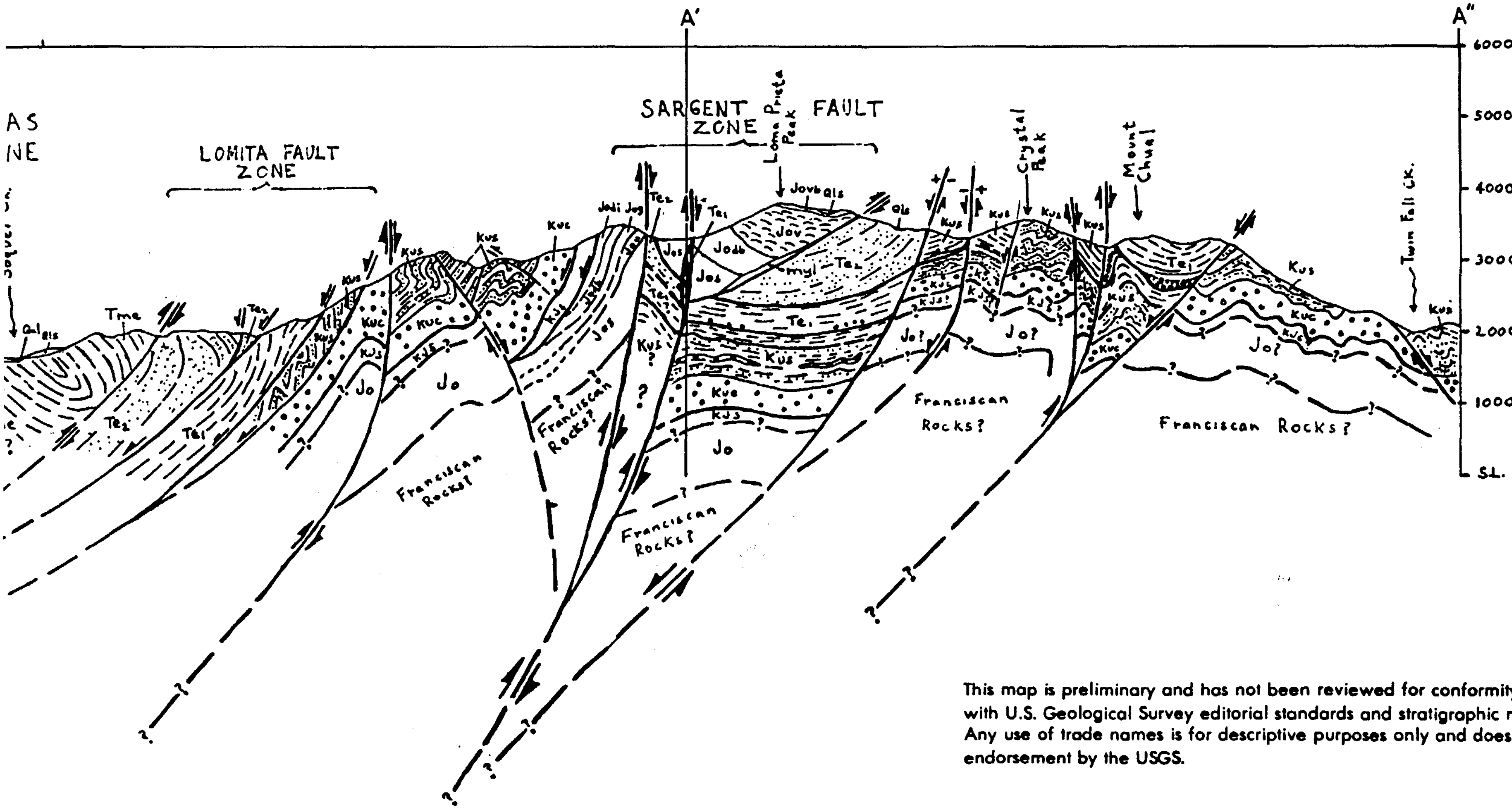
ATTACHMENT A

SOURCE: REF. 1



OPEN FILE MAP 88-752

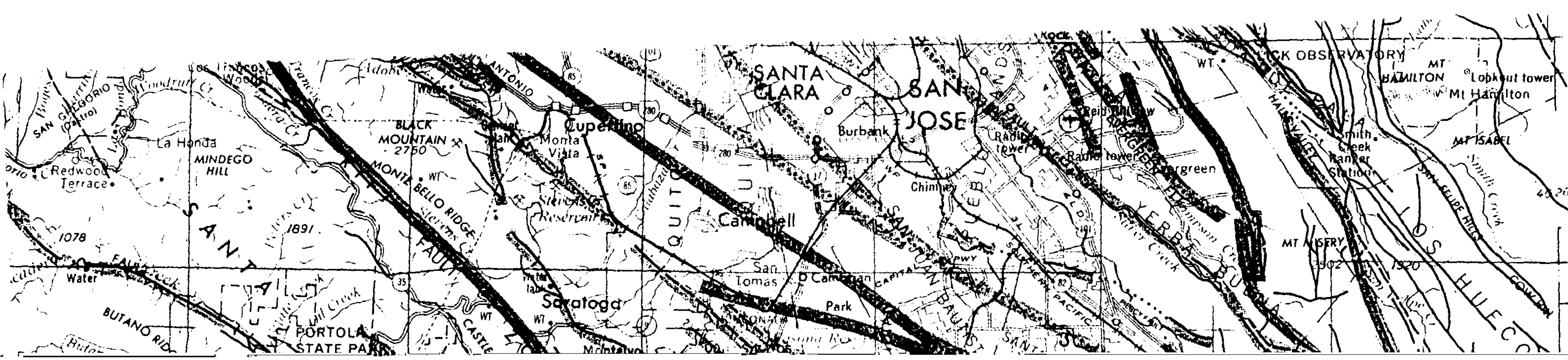
SHEET 2 OF 2



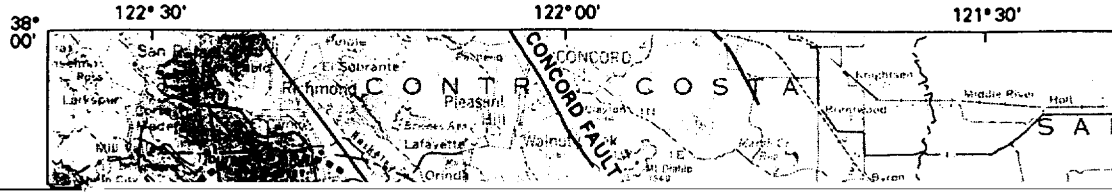
This map is preliminary and has not been reviewed for conformity with U.S. Geological Survey editorial standards and stratigraphic nomencla Any use of trade names is for descriptive purposes only and does not impl endorsement by the USGS.

ATTACHMENT C

SOURCE: REF. 2



SANTA CLARA
SAN JOSE
Burbank
Cupertino
Monta Vista
Campbell
Saratoga
San Tomas
Park
Chimney
Radio tower
Evergreen
La Honda
BLACK MOUNTAIN
2750
MINDEGO HILL
Redwood Terrace
MONTE BELLO RIDGE
PORTOLA STATE PARK
BUTANO RIDGE
Water
1078
1891
Mt Hamilton
Lookout tower
MT ISABEL
Smith Creek Ranger Station
SAN FELIPE HILLS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El Sobrante
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Middle River
Holt